

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A process for the preparation of semi-conducting polymer film containing a beta crystalline~~crystalline~~ phase of polyvinylidene fluoride, the process comprising:

forming a solution by dissolving polyvinylidene fluoride in a solvent,

dispersing conducting particles therein,

casting the dispersed solution on a substrate,

evaporating the solvent,

drying the film,

holding the film between two metal plates and applying an electric potential thereto, and

removing the film to obtain a polymer film containing high beta crystalline phase of polyvinylidene fluoride.

2. (Currently Amended) A process as ~~claimed~~ in claim 1 wherein the polyvinylidene fluoride used has an ethylene content of less than 2%.

3. (Currently Amended) A process as ~~claimed~~ in claim 1 wherein the solvent used for dissolving and casting the film has an amide substituted group and has a dielectric constant between 20 to 45.

4. (Currently Amended) A process as-~~claimed~~ in claim 1 wherein the conducting particles added to the solution have a particle size in the range of 0.1 to 20 micrometers and concentration in the range of 2 to 50% by weight of the polymer.

5. (Currently Amended) A process as-~~claimed~~ in claim 4, wherein the concentration of the conducting particles ranges from 3% to 30%.

6. (Currently Amended) A process as-~~claimed~~ in claim 4, wherein the concentration of the conducting particles is 20% by weight of the polymer.

7. (Currently Amended) A process as-~~claimed~~ in claim 1 wherein the conducting particles have a conductivity in the range of 10^{-3} to 10^4 S/cm.

8. (Currently Amended) A process as-~~claimed~~ in claim 1 wherein the polymer film is cast in stainless steel dish at a temperature in the range of 45° to 90°C.

9. (Currently Amended) A process as-~~claimed~~ in claim 1 wherein ~~the~~the said electric potential-~~used for treatment~~ is in the range of 10 V to 100 V.

10. (Currently Amended) A process as-~~claimed~~ in claim 1 wherein the electric potential is applied by holding the film between two metal plates-~~and~~ for a duration of 10 to 300 min.

11. (Currently Amended) A process as-~~claimed~~ in claim 1 wherein ~~the~~the said electric potential is applied for a duration of application is at least about 60 minutes.

12. (Currently Amended) A process as ~~claimed~~ in claim 1 wherein the polymer film is conditioned at a temperature used for conditioning is in the range of 40°C to 100°C.

13. (Currently Amended) A process as ~~claimed~~ in claim 1 wherein the polymer film is conditioned at a temperature used for conditioning is about 80°C.

14. (Currently Amended) A process as ~~claimed~~ in claim 1 wherein the film is cast by spin coating on smooth substrates and metal electrodes are deposited on both sides of the film to form a device directly containing the beta crystalline phase of polyvinylidene fluoride.